

Work Order ID 144765

May 05, 2016 9:22:07 AM

\*144765\*

Page 1

Item ID: D3610-041

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Bracket

Stop

\*NS2\*

Start Date: 5/13/2016 Start Qty: 12.00

\*12\*

Cust Item ID:

Required Date: 5/27/2016 Req'd Qty: 12.00

\*12\*

Customer:

Reference:

Approvals:

Process Plan: M65

Date: MAY 05 2016

Pooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D3610

Rev B

100

0.00

\*100\*

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blank 7.900 " long

110

0.42

\*110\*

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

5.64

HAAS CNC vertical machine #1

1- Mill as per Folio FA692 Rev: B & Dwg D3610 Rev: B 2-Deburr per dwg D3610

120

0.00

\*120\*

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.12

Quality Control

DAS

44

9-89

16-05-17

PTO →

DAS

44

9-89

16-05-17

DQA:

Date:

16.06.23



QA Closed:

Date:

16/06/03

## WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

|                                             |                                                           |                                                 |                                                            |                                                       |                                                          |                                              |                                                 |                                                 |  |
|---------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------|----------------------------------------------|-------------------------------------------------|-------------------------------------------------|--|
| Work Order: <u>144765</u>                   |                                                           | DISPOSITION                                     |                                                            | AGAINST DEPARTMENT/PROCESS                            |                                                          |                                              |                                                 |                                                 |  |
| Part No. <u>D360-041</u>                    |                                                           | Rework <input type="checkbox"/>                 |                                                            | Skid-tube <input type="checkbox"/>                    | Cross tube <input type="checkbox"/>                      | Water Jet <input type="checkbox"/>           | Engineering <input checked="" type="checkbox"/> |                                                 |  |
| NCR No. <u>16-5819</u>                      |                                                           | Scrap <input type="checkbox"/>                  |                                                            | Machining <input checked="" type="checkbox"/>         | Small Fab <input type="checkbox"/>                       | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input type="checkbox"/>                |                                                 |  |
|                                             |                                                           | Use-as-is <input checked="" type="checkbox"/>   |                                                            | Thermoforming <input type="checkbox"/>                | Finishing <input type="checkbox"/>                       | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>                  |                                                 |  |
|                                             |                                                           | Suspected Unapproved <input type="checkbox"/>   |                                                            | Large Fab <input type="checkbox"/>                    | Composite <input type="checkbox"/>                       | Supplier <input type="checkbox"/>            |                                                 |                                                 |  |
| Date: <u>16/5/18</u>                        |                                                           | Step #: <u>110</u>                              |                                                            | QTY Effective: <u>1</u>                               |                                                          |                                              | MRB (QSI042) Approval                           |                                                 |  |
| Description Work Order Deviation            |                                                           |                                                 |                                                            | Disposition                                           |                                                          |                                              |                                                 | Completed By<br>DAS 12 16/5/18<br>9-89          |  |
| Nut plate slot is 0.140 depth.              |                                                           |                                                 |                                                            | Acceptable. Holds bracket for shoulder harness guide. |                                                          |                                              |                                                 | Lead hand / Supervisor<br>Approval Verification |  |
|                                             |                                                           |                                                 |                                                            |                                                       |                                                          |                                              |                                                 | PD 1605-18<br>QC / QA Coordinator<br>Approval   |  |
|                                             |                                                           |                                                 |                                                            |                                                       |                                                          |                                              |                                                 | PD 1605-19                                      |  |
| Root Cause                                  |                                                           | FAULT CATEGORY                                  |                                                            |                                                       |                                                          |                                              |                                                 |                                                 |  |
| Environment <input type="checkbox"/>        | No Re-verification <input type="checkbox"/>               | Pressure/Forced <input type="checkbox"/>        | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>             | Positioned Wrong <input type="checkbox"/>                |                                              |                                                 |                                                 |  |
| Design <input type="checkbox"/>             | Operator <input type="checkbox"/>                         | Bending <input type="checkbox"/>                | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                | Outside Dimensions <input type="checkbox"/>              |                                              |                                                 |                                                 |  |
| Doc/Data <input type="checkbox"/>           | Offset/Setup <input type="checkbox"/>                     | Centre Not Concentric <input type="checkbox"/>  | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                        | Over/Under tolerance <input checked="" type="checkbox"/> |                                              |                                                 |                                                 |  |
| Equip/Tooling <input type="checkbox"/>      | Supplier <input type="checkbox"/>                         | Cracks <input type="checkbox"/>                 | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                         | Part Incorrect <input type="checkbox"/>                  |                                              |                                                 |                                                 |  |
| Handling/Pre <input type="checkbox"/>       | Training <input type="checkbox"/>                         | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>           | Part Lost/Missing <input type="checkbox"/>               |                                              |                                                 |                                                 |  |
| Material <input type="checkbox"/>           | Use for Testing <input type="checkbox"/>                  | Cuffs <input type="checkbox"/>                  | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>              | Part Moved <input type="checkbox"/>                      |                                              |                                                 |                                                 |  |
| Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/>                 | Crushing <input type="checkbox"/>               | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                      | Drawing <input type="checkbox"/>                         |                                              |                                                 |                                                 |  |
| Tribal Knowledge <input type="checkbox"/>   | Rushing <input type="checkbox"/>                          | Heat Treat <input type="checkbox"/>             | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                   | Finish <input type="checkbox"/>                          |                                              |                                                 |                                                 |  |
| LOA <input type="checkbox"/>                | Product Improvement <input type="checkbox"/>              | Wave/Twist in Tube <input type="checkbox"/>     | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                 | Misread <input type="checkbox"/>                         |                                              |                                                 |                                                 |  |
| Substation <input type="checkbox"/>         | Process Improvement <input type="checkbox"/>              | Marks/Chatter <input type="checkbox"/>          | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>        | Turning Sequence <input type="checkbox"/>                |                                              |                                                 |                                                 |  |
| Past Expiry Date <input type="checkbox"/>   | <input checked="" type="checkbox"/> Manufacturing Process |                                                 |                                                            |                                                       |                                                          |                                              |                                                 |                                                 |  |
| Misidentified <input type="checkbox"/>      | Past Due <input type="checkbox"/>                         | OTHER :                                         |                                                            |                                                       |                                                          |                                              |                                                 |                                                 |  |



DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                   |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------------------------------------------------------------------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |  |                                                                                                                   |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | <b>MRB (QSI042) Approval</b><br><br><div style="border: 1px solid black; height: 150px; margin-top: 10px;"></div> |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |                                                                                                                   |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                   |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                   |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | Completed By                                                                                                      |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | Lead hand / Supervisor<br>Approval Verification                                                                   |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | QC / QA Coordinator<br>Approval                                                                                   |  |

| Root Cause         |                          |                                                | FAULT CATEGORY                                  |                                                            |                                                |                                               |  |  |
|--------------------|--------------------------|------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|--|--|
| Environment        | <input type="checkbox"/> | <input type="checkbox"/> No Re-verification    | <input type="checkbox"/> Pressure/Forced        | <input type="checkbox"/> Temperature/Cure                  | <input type="checkbox"/> Power Loss/Surge      | <input type="checkbox"/> Positioned Wrong     |  |  |
| Design             | <input type="checkbox"/> | <input type="checkbox"/> Operator              | <input type="checkbox"/> Bending                | <input type="checkbox"/> Set-up                            | <input type="checkbox"/> Folio/Program         | <input type="checkbox"/> Outside Dimensions   |  |  |
| Doc/Data           | <input type="checkbox"/> | <input type="checkbox"/> Offset/Setup          | <input type="checkbox"/> Centre Not Concentric  | <input type="checkbox"/> BOM/Route                         | <input type="checkbox"/> Grain                 | <input type="checkbox"/> Over/Under tolerance |  |  |
| Equip/Tooling      | <input type="checkbox"/> | <input type="checkbox"/> Supplier              | <input type="checkbox"/> Cracks                 | <input type="checkbox"/> Broken/Damage/Defect              | <input type="checkbox"/> Weld                  | <input type="checkbox"/> Part Incorrect       |  |  |
| Handling/Pre       | <input type="checkbox"/> | <input type="checkbox"/> Training              | <input type="checkbox"/> Crimp/Kink/Ripple/Wave | <input type="checkbox"/> Inspection Incomplete/Unqualified | <input type="checkbox"/> Wrong Stock Pulled    | <input type="checkbox"/> Part Lost/Missing    |  |  |
| Material           | <input type="checkbox"/> | <input type="checkbox"/> Use for Testing       | <input type="checkbox"/> Cuffs                  | <input type="checkbox"/> Contamination                     | <input type="checkbox"/> Out of Sequence       | <input type="checkbox"/> Part Moved           |  |  |
| Internal Transport | <input type="checkbox"/> | <input type="checkbox"/> Poor Information      | <input type="checkbox"/> Crushing               | <input type="checkbox"/> Countersink                       | <input type="checkbox"/> Off-set               | <input type="checkbox"/> Drawing              |  |  |
| Tribal Knowledge   | <input type="checkbox"/> | <input type="checkbox"/> Rushing               | <input type="checkbox"/> Heat Treat             | <input type="checkbox"/> Cut Too Short                     | <input type="checkbox"/> Mislabeled            | <input type="checkbox"/> Finish               |  |  |
| LOA                | <input type="checkbox"/> | <input type="checkbox"/> Product Improvement   | <input type="checkbox"/> Wave/Twist in Tube     | <input type="checkbox"/> Instructions Incomplete/Unclear   | <input type="checkbox"/> Fit/Function          | <input type="checkbox"/> Misread              |  |  |
| Substation         | <input type="checkbox"/> | <input type="checkbox"/> Process Improvement   | <input type="checkbox"/> Marks/Chatter          | <input type="checkbox"/> Drill Holes                       | <input type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Turning Sequence     |  |  |
| Past Expiry Date   | <input type="checkbox"/> | <input type="checkbox"/> Manufacturing Process | <b>OTHER :</b>                                  |                                                            |                                                |                                               |  |  |
| Misidentified      | <input type="checkbox"/> | <input type="checkbox"/> Past Due              |                                                 |                                                            |                                                |                                               |  |  |

# Work Order ID 144765

May 05, 2016 9:22:07 AM

**\*144765\***

Page 3

Item ID: D3610-041

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Bracket

Stop

**\*NS2\***

Start Date: 5/13/2016 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 5/27/2016 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

**\*NR1\***

Stop

**\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                                             | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|----------------------------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 160                            | Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3                             | 0.00                 |         |        |              |               |               |                  |                |
| <b>*160*</b>                   | <i>M 130746</i>                                                      |                      |         |        |              |               |               |                  |                |
| Powdercoat                     | Memo                                                                 | 0.36                 |         |        |              |               |               |                  |                |
| Powder Coating                 | START TIME: <i>10:20</i> FINISH TIME: <i>10:50</i> OVEN TEMPERATURE: |                      |         |        |              |               |               |                  |                |
| 170                            | QC3- Inspect Part Finish                                             | 0.00                 |         |        |              |               |               |                  |                |
| <b>*170*</b>                   |                                                                      |                      |         |        |              |               |               |                  |                |
| QC                             | Memo                                                                 | 0.12                 |         |        |              |               |               |                  |                |
| Quality Control                |                                                                      |                      |         |        |              |               |               |                  |                |
| 180                            | Small Fab                                                            | 0.00                 |         |        |              |               |               |                  |                |
| <b>*180*</b>                   |                                                                      |                      |         |        |              |               |               |                  |                |
| Small Fab                      | Memo                                                                 | 0.48                 |         |        |              |               |               |                  |                |
| Small Fab                      | Rivet Nut Plate as per Dwg D3610                                     |                      |         |        |              |               |               |                  |                |

*9* *1605-27* *238*

*(9)*

*DAS*  
*68-638*  
*888-88*  
*MAY 27 2016*

*9* *FF*

*MAY 30 2016*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                     |  |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |                                                                                                                                                     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |
| <b>Root Cause</b><br><br><div style="display: flex;"> <div style="width: 50%;">             Environment <input type="checkbox"/><br/>             Design <input type="checkbox"/><br/>             Doc/Data <input type="checkbox"/><br/>             Equip/Tooling <input type="checkbox"/><br/>             Handling/Pre <input type="checkbox"/><br/>             Material <input type="checkbox"/><br/>             Internal Transport <input type="checkbox"/><br/>             Tribal Knowledge <input type="checkbox"/><br/>             LOA <input type="checkbox"/><br/>             Substation <input type="checkbox"/><br/>             Past Expiry Date <input type="checkbox"/><br/>             Misidentified <input type="checkbox"/> </div> <div style="width: 50%;">             No Re-verification <input type="checkbox"/><br/>             Operator <input type="checkbox"/><br/>             Offset/Setup <input type="checkbox"/><br/>             Supplier <input type="checkbox"/><br/>             Training <input type="checkbox"/><br/>             Use for Testing <input type="checkbox"/><br/>             Poor Information <input type="checkbox"/><br/>             Rushing <input type="checkbox"/><br/>             Product Improvement <input type="checkbox"/><br/>             Process Improvement <input type="checkbox"/><br/>             Manufacturing Process <input type="checkbox"/><br/>             Past Due <input type="checkbox"/> </div> </div> |  | <b>FAULT CATEGORY</b><br><br><div style="display: flex;"> <div style="width: 33%;">             Pressure/Forced <input type="checkbox"/><br/>             Bending <input type="checkbox"/><br/>             Centre Not Concentric <input type="checkbox"/><br/>             Cracks <input type="checkbox"/><br/>             Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>             Cuffs <input type="checkbox"/><br/>             Crushing <input type="checkbox"/><br/>             Heat Treat <input type="checkbox"/><br/>             Wave/Twist in Tube <input type="checkbox"/><br/>             Marks/Chatter <input type="checkbox"/> </div> <div style="width: 33%;">             Temperature/Cure <input type="checkbox"/><br/>             Set-up <input type="checkbox"/><br/>             BOM/Route <input type="checkbox"/><br/>             Broken/Damage/Defect <input type="checkbox"/><br/>             Inspection Incomplete/Unqualified <input type="checkbox"/><br/>             Contamination <input type="checkbox"/><br/>             Countersink <input type="checkbox"/><br/>             Cut Too Short <input type="checkbox"/><br/>             Instructions Incomplete/Unclear <input type="checkbox"/><br/>             Drill Holes <input type="checkbox"/> </div> <div style="width: 33%;">             Power Loss/Surge <input type="checkbox"/><br/>             Folio/Program <input type="checkbox"/><br/>             Grain <input type="checkbox"/><br/>             Weld <input type="checkbox"/><br/>             Wrong Stock Pulled <input type="checkbox"/><br/>             Out of Sequence <input type="checkbox"/><br/>             Off-set <input type="checkbox"/><br/>             Mislabeled <input type="checkbox"/><br/>             Fit/Function <input type="checkbox"/><br/>             Misaligned/off center <input type="checkbox"/> </div> <div style="width: 33%;">             Positioned Wrong <input type="checkbox"/><br/>             Outside Dimensions <input type="checkbox"/><br/>             Over/Under tolerance <input type="checkbox"/><br/>             Part Incorrect <input type="checkbox"/><br/>             Part Lost/Missing <input type="checkbox"/><br/>             Part Moved <input type="checkbox"/><br/>             Drawing <input type="checkbox"/><br/>             Finish <input type="checkbox"/><br/>             Misread <input type="checkbox"/><br/>             Turning Sequence <input type="checkbox"/> </div> </div> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | OTHER :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |

**Work Order ID 144765**

May 05, 2016 9:22:07 AM

**\*144765\***

Page 4

Item ID: D3610-041

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Bracket

Start Date: 5/13/2016 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 5/27/2016 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

**\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

**\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                           | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp                         |
|--------------------------------|----------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------------------------------|
| 190                            | QC5- Inspect part completeness to step on W/O      | 0.00                 |         |        |              |               |               |                  |                                        |
| <b>*190*</b>                   |                                                    |                      |         |        |              |               |               |                  |                                        |
| QC                             | Memo                                               | 0.24                 |         |        |              |               |               |                  | DAS<br>38<br>MAY 30 2016               |
| Quality Control                |                                                    |                      |         |        |              |               |               |                  |                                        |
| 200                            | Identify as per dwg & Stock Location: <b>STOCK</b> | 0.00                 |         |        |              |               |               |                  |                                        |
| <b>*200*</b>                   |                                                    |                      |         |        |              |               |               |                  |                                        |
| Packaging                      | Memo                                               | 0.12                 |         |        |              |               |               |                  | 9x<br>DAS<br>26<br>3-00<br>MAY 31 2016 |
| Packaging                      |                                                    |                      |         |        |              |               |               |                  |                                        |
| 210                            | QC21- Final Inspection - Work Order Release        | 0.00                 |         |        |              |               |               |                  |                                        |
| <b>*210*</b>                   |                                                    |                      |         |        |              |               |               |                  |                                        |
| QC                             | Memo                                               | 1.20                 |         |        |              |               |               |                  | ML5<br>MAY 31 2016                     |
| Quality Control                |                                                    |                      |         |        |              |               |               |                  |                                        |

ML5  
MAY 31 2016

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                                                                                                    |  |
|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|-----------------------|--------------------------------------------------------------------------------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                               |  |                       |                                                                                                                    |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  | MRB (QS1042) Approval |                                                                                                                    |  |
| Description Work Order Deviation                             |                                                |                                                                                                                                                                                    |                                                            | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |  |                       | Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                                                                                                    |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                                                                                                    |  |
| Root Cause                                                   |                                                | FAULT CATEGORY                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                                                                                                    |  |
| Environment <input type="checkbox"/>                         | <input type="checkbox"/> No Re-verification    | <input type="checkbox"/> Pressure/Forced                                                                                                                                           | <input type="checkbox"/> Temperature/Cure                  | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Positioned Wrong     |  |                       |                                                                                                                    |  |
| Design <input type="checkbox"/>                              | <input type="checkbox"/> Operator              | <input type="checkbox"/> Bending                                                                                                                                                   | <input type="checkbox"/> Set-up                            | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Outside Dimensions   |  |                       |                                                                                                                    |  |
| Doc/Data <input type="checkbox"/>                            | <input type="checkbox"/> Offset/Setup          | <input type="checkbox"/> Centre Not Concentric                                                                                                                                     | <input type="checkbox"/> BOM/Route                         | <input type="checkbox"/> Grain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Over/Under tolerance |  |                       |                                                                                                                    |  |
| Equip/Tooling <input type="checkbox"/>                       | <input type="checkbox"/> Supplier              | <input type="checkbox"/> Cracks                                                                                                                                                    | <input type="checkbox"/> Broken/Damage/Defect              | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Part Incorrect       |  |                       |                                                                                                                    |  |
| Handling/Pre <input type="checkbox"/>                        | <input type="checkbox"/> Training              | <input type="checkbox"/> Crimp/Kink/Ripple/Wave                                                                                                                                    | <input type="checkbox"/> Inspection Incomplete/Unqualified | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/> Part Lost/Missing    |  |                       |                                                                                                                    |  |
| Material <input type="checkbox"/>                            | <input type="checkbox"/> Use for Testing       | <input type="checkbox"/> Cuffs                                                                                                                                                     | <input type="checkbox"/> Contamination                     | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Part Moved           |  |                       |                                                                                                                    |  |
| Internal Transport <input type="checkbox"/>                  | <input type="checkbox"/> Poor Information      | <input type="checkbox"/> Crushing                                                                                                                                                  | <input type="checkbox"/> Countersink                       | <input type="checkbox"/> Off-set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Drawing              |  |                       |                                                                                                                    |  |
| Tribal Knowledge <input type="checkbox"/>                    | <input type="checkbox"/> Rushing               | <input type="checkbox"/> Heat Treat                                                                                                                                                | <input type="checkbox"/> Cut Too Short                     | <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Finish               |  |                       |                                                                                                                    |  |
| LOA <input type="checkbox"/>                                 | <input type="checkbox"/> Product Improvement   | <input type="checkbox"/> Wave/Twist in Tube                                                                                                                                        | <input type="checkbox"/> Instructions Incomplete/Unclear   | <input type="checkbox"/> Fit/Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Misread              |  |                       |                                                                                                                    |  |
| Substation <input type="checkbox"/>                          | <input type="checkbox"/> Process Improvement   | <input type="checkbox"/> Marks/Chatter                                                                                                                                             | <input type="checkbox"/> Drill Holes                       | <input type="checkbox"/> Misaligned/off center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Turning Sequence     |  |                       |                                                                                                                    |  |
| Past Expiry Date <input type="checkbox"/>                    | <input type="checkbox"/> Manufacturing Process |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                                                                                                    |  |
| Misidentified <input type="checkbox"/>                       | <input type="checkbox"/> Past Due              | OTHER :                                                                                                                                                                            |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                                                                                                    |  |



# Picklist Print

May 05, 2016 9:22:06 AM

Page 1 / 1

Work Order ID: 144765

**\*144765\***

Parent Item: D3610-041

**\*D3610-041\***

Parent Item Name: Bracket

Start Date: 5/13/2016

Required Date: 5/27/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP rev A new issue 07.03.28 EC  
IPP rev B released, changed mat'l EC  
C:AS PER REV B JLM VERIFIED BY:DD

IPP REV

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

|                          |  |           |    |  |  |     |   |        |     |          |  |  |  |
|--------------------------|--|-----------|----|--|--|-----|---|--------|-----|----------|--|--|--|
| M4140N-<br>B1.500X1.5000 |  | Purchased | No |  |  | 100 | f | 8.7160 | 0.7 | 8.842105 |  |  |  |
|--------------------------|--|-----------|----|--|--|-----|---|--------|-----|----------|--|--|--|

**\*M4140N-B1 500X1 5000\***

4140 Steel Bar 1.50 x 1.50

\*\*

*16/05/15*

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| MAT034   | 8.716   |          |
| m127137  | 8.716   |          |

|              |  |           |    |  |  |     |      |           |   |    |  |  |  |
|--------------|--|-----------|----|--|--|-----|------|-----------|---|----|--|--|--|
| MS20426AD3-4 |  | Purchased | No |  |  | 110 | Each | 6,115.000 | 2 | 24 |  |  |  |
|--------------|--|-----------|----|--|--|-----|------|-----------|---|----|--|--|--|

**\*MS20426AD3-4\***

RIVET

\*\*

*FF*

MAY 30 2016

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| CCK004   | 4885    |          |
| m134294  | 4885    |          |
| GA       | 996     |          |
| m131697  | 996     |          |
| ST312    | 234     |          |
| m131697  | 234     |          |

|           |            |           |    |  |  |     |      |         |   |    |  |  |  |
|-----------|------------|-----------|----|--|--|-----|------|---------|---|----|--|--|--|
| MS21075L3 | MS21075L3N | Purchased | No |  |  | 180 | Each | 60.0000 | 1 | 12 |  |  |  |
|-----------|------------|-----------|----|--|--|-----|------|---------|---|----|--|--|--|

**\*MS21075L3\***

Nut Plate

\*\*

*FF*

MAY 30 2016

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| GA       | 60      |          |
| m134257  | 60      |          |

*298*

*6*  
*3*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                       |                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------|-------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                       |                                                 |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Step #: _____                                                                                                                                                                      | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | MRB (QSI042) Approval |                                                 |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                       | Completed By                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                       | Lead hand / Supervisor<br>Approval Verification |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                       | QC / QA Coordinator<br>Approval                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                       |                                                 |
| <b>Root Cause</b><br><div style="display: flex; justify-content: space-between;"> <div>           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div>           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex; justify-content: space-between;"> <div>           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div>           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div>           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Misabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div>           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                       |                                                 |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                       |                                                 |

|                                     |  |                             |
|-------------------------------------|--|-----------------------------|
| <b>DART AEROSPACE LTD</b>           |  | <b>Work Order:</b> 147765   |
| <b>Description: Plate</b>           |  | <b>Part Number:</b> D3610-1 |
| <b>Inspection Dwg: D3610 Rev: B</b> |  | <b>Page 1 of 1</b>          |

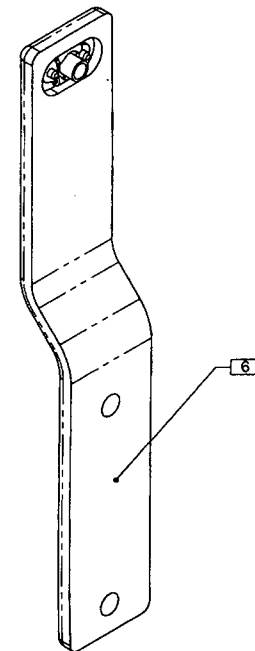
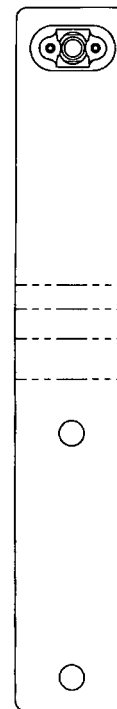
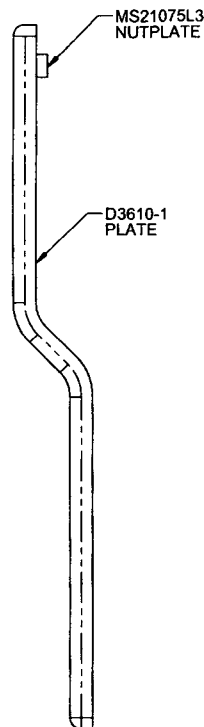
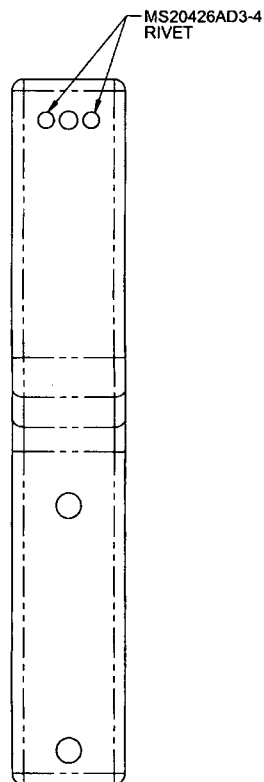
### FIRST ARTICLE INSPECTION CHECKLIST

| Drawing Dimension | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|---------------|------------------|--------|--------|----------------------|----------|
| 1.25              | +/-0.030      | 1.248            | /      |        |                      |          |
| 0.250             | +/-0.010      | .250             | /      |        |                      |          |
| 0.63              | +/-0.030      | .625             | /      |        |                      |          |
| 7.75              | +/-0.030      | 7.748            | /      |        |                      |          |
| 4.25              | +/-0.030      | 4.25             | /      |        |                      |          |
| 2.677             | +/-0.010      | 2.677            | /      |        |                      |          |
| 0.38              | +/-0.030      | .376             | /      |        |                      |          |
| Ø0.277            | +0.006/-0.001 | .277             | /      |        |                      |          |
| Ø0.201            | +0.005/-0.001 | .201             | /      |        |                      |          |
| Ø0.098            | +0.004/-0.001 | .098             | /      |        |                      |          |
| 0.88              | +/-0.030      | .875             | /      |        | H-S.                 | 31006.   |
| 0.94 x 0.50       | +/-0.030      | .935 x .500      | /      |        |                      |          |
| 0.250             | +/-0.010      | .252             | /      |        |                      |          |
| 0.125 depth       | +/-0.010      |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |

|                            |  |                       |                              |
|----------------------------|--|-----------------------|------------------------------|
| <b>Measured by:</b> DAS 44 |  | <b>Audited by:</b> SL | <b>Preliminary Approval:</b> |
| <b>Date:</b> 16-05-17      |  | <b>Date:</b> 16-5-19  | <b>Date:</b>                 |

| Rev | Date     | Change                           | Revised by | Approved |
|-----|----------|----------------------------------|------------|----------|
| A   | 08.04.21 | New Issue P/O D3610-041          | KJ/DD      |          |
| B   | 12.05.15 | Dimensions updated per Dwg Rev B | KJ         |          |

| ITEM | QTY<br>-041 | P/N          | DESCRIPTION |
|------|-------------|--------------|-------------|
|      | X           | D3610-041    | BRACKET     |
| 1    | 1           | D3610-1      | PLATE       |
| 2    | 1           | MS21075L3    | NUT PLATE   |
| 3    | 2           | MS20426AD3-4 | RIVET       |



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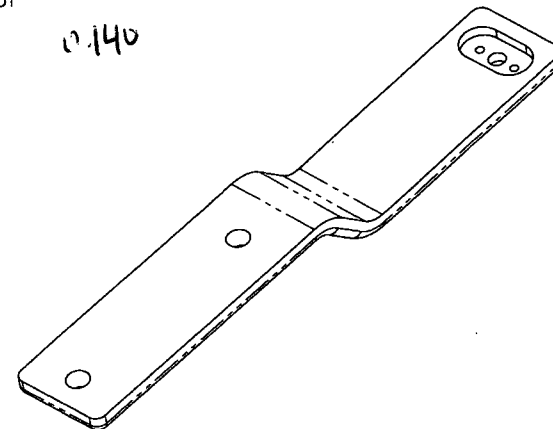
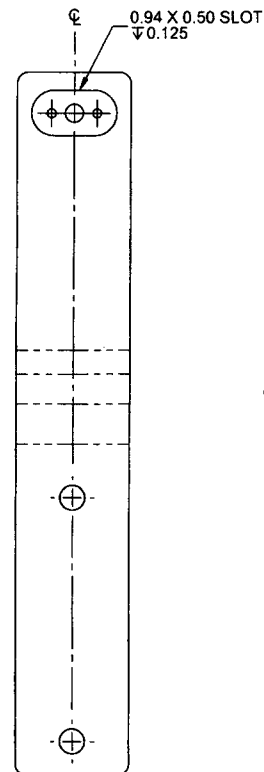
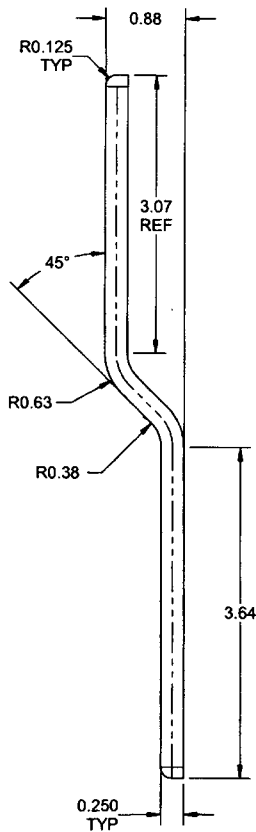
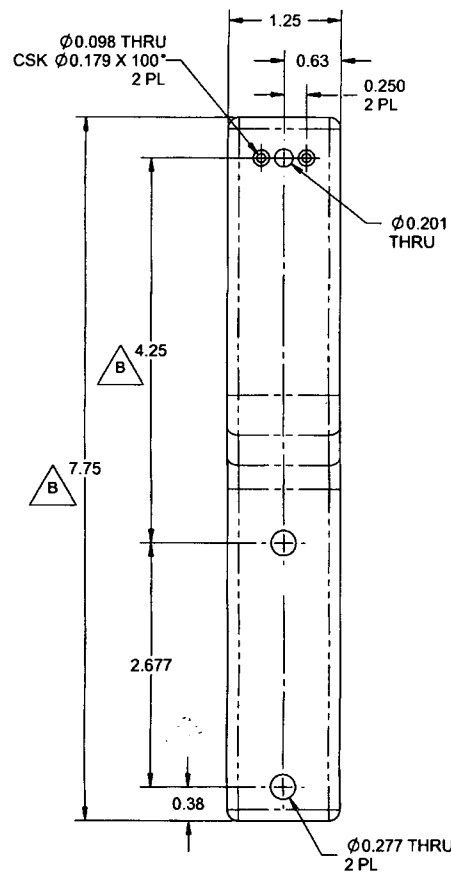
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2012-04-30

NO 144765 MJS  
10-05-05

|            |                                                      |                                                                                                                                                                                                                                                                                |              |
|------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| B          | DIM 4.25 WAS 3.00 (C7-3)<br>DIM 7.75 WAS 6.50 (C7-2) | RP                                                                                                                                                                                                                                                                             | 12.04.13     |
| A          | NEW ISSUE                                            | LE                                                                                                                                                                                                                                                                             | 07.04.20     |
| REV.       | DESCRIPTION                                          | BY                                                                                                                                                                                                                                                                             | DATE         |
| DESIGN     | LE                                                   | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                       |              |
| DRAWN      | RP                                                   |                                                                                                                                                                                                                                                                                |              |
| CHECKED    | AP                                                   | DRAWING NO.                                                                                                                                                                                                                                                                    | REV. B       |
| MFG. APPR. | AP                                                   | D3610                                                                                                                                                                                                                                                                          | SHEET 1 OF 2 |
| APPROVED   | AP                                                   | TITLE                                                                                                                                                                                                                                                                          | SCALE        |
| DE APPR.   | AP                                                   | BRACKET                                                                                                                                                                                                                                                                        | NTS          |
| DATE       | 12.04.13                                             | COPYRIGHT © 2007 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br>WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

**D3610-041 BRACKET**

NOTES:  
1) MATERIAL: N/A  
2) FINISH: N/A  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3610-041" PER QSI044 METHOD 6.1  
7) WEIGHT: 0.67lbs



### D3610-1 PLATE

#### NOTES:

- 1) MATERIAL: 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345 OR AMS 6348 OR 6370 OR 6528 (REF DART SPEC M4130N-B) OR 4140N STEEL BAR PER MIL-S-5626 OR AMS 6382 OR 6349 OR 6529 (REF DART SPEC M4140N-B)
- 2) FINISH: POWDER COAT GREY SANTEDX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.66lbs
- 8) PROFILE PER DRAWING FILE "D3610-1-REV B.STP"

|                                                                                                                                                                                                                              |          |                                        |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                       | LE       | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN                                                                                                                                                                                                                        | RP       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                                      | A.P.     | DRAWING NO.                            | REV. B       |
| MFG. APPR.                                                                                                                                                                                                                   | EC       | D3610                                  | SHEET 2 OF 2 |
| APPROVED                                                                                                                                                                                                                     | W        | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                                     | #        | BRACKET                                | NTS          |
| DATE                                                                                                                                                                                                                         | 12.04.13 | COPYRIGHT © 2007 BY DART AEROSPACE LTD |              |
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